



Self-Guided Golf Club Carrier

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TOOLS:

- [Computer \(1\)](#)
- [Jigsaw \(1\)](#)
- [Soldering iron \(1\)](#)

PARTS:

- [Arduino Uno \(1\)](#)
- [IR Beacon Transceiver \(1\)](#)
- [Kids Electric Car \(1\)](#)
- [Motor Shield Kit \(1\)](#)
- [Scrap Material such as Plastic or Lumber \(1\)](#)
- [Pivot Wheel \(1\)](#)

SUMMARY

This guide provides a step-by-step process for building a self-guided golf club carrier using an Arduino, sensors, and a kid's electric car.

Step 1 — Disassembly of Kid's Electric Car: Motors



- Take a Phillips screwdriver and remove the back purple frame. Take one screw out of the back of the seat to reach the motors.
- After unhinging the seat, two motors connected to a switch can be found underneath. The switch controls the speed of the toy car.
- Take apart the back axle and wheels to remove the motors from the car.

Step 2 — Disassembly of Toy Car: Wiring



- Open up the floor of the car to reveal the wire connecting the battery and pedal to the motors.
- Unscrew the hood of the car and slip the battery wire through to the backside, where the motors are.
- The final disassembly should include the two motors, speed control, battery connector, and the go switch all connected to each other.
- Using a jigsaw, remove the front half of the vehicle as shown in the third picture for this step.

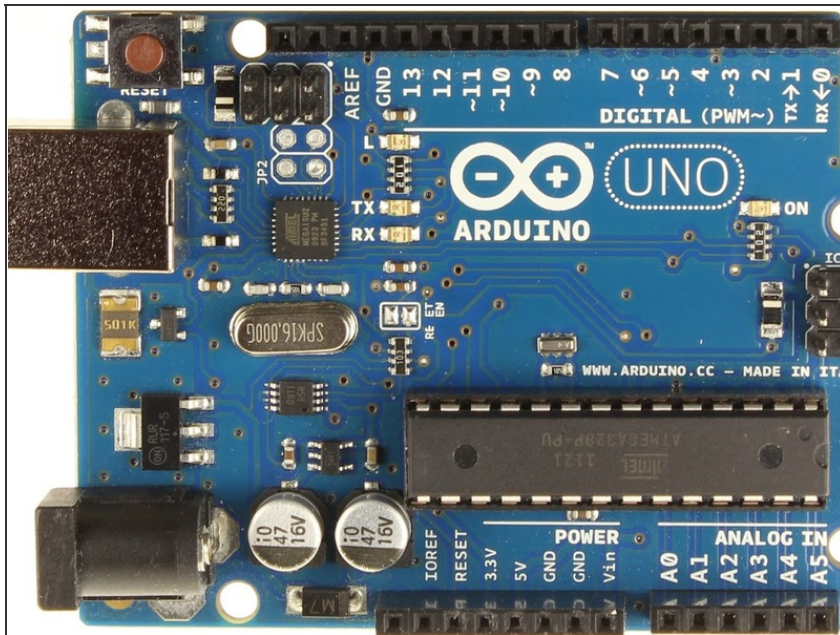


Step 3 — Solder All Necessary Parts



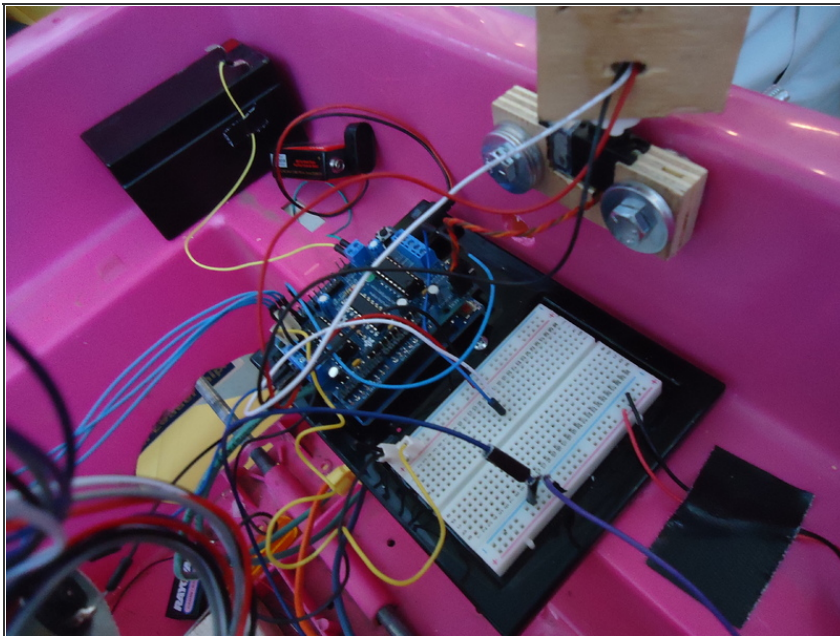
- Use the diagrams provided by the sensor manufacturer to properly place the electrical components on the sensor board.
- Use the medium heat setting on the soldering gun to melt down the solder to secure the components.

Step 4 — Obtain Arduino Code and Program Arduino



- After purchasing the Arduino, download the free Arduino software to your computer from <http://www.arduino.cc/>
- Attach the Arduino to your computer using the USB connector included in the starter kit. Program the Arduino using the Arduino code found [here](#).

Step 5 — Integration of Motors and Sensors with Arduino



- [This website](#) provides details for attaching the sensors, microcontroller and motors.

Step 6 — Build Remaining Carrier Structure



- Use the back half of the kid's car and some scrap material (such as lumber or plastic if it's available) to create a support frame for the front end of the carrier.
- Secure the material to the kid's car with bolts and screws and build outward to produce a frame. Bringing the front end to a point is suggested because it will allow for a single pivot wheel and it will provide a strong structure.
- Attach a pivot wheel at the front end of your newly created structure.